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# CENTRAL COUNTERPARTIES AND SALE AND REPURCHASE AGREEMENTS: REGULATING FINANCIAL MARKETS IN THE LIGHT OF YET ANOTHER “FALSE DAWN”

## Abstract

*In this article it is argued that the burgeoning faith of policy-makers and regulators in the ability of central counterparties (“CCPs”) to absorb both counterparty and collateral risk in “sale and repurchase agreements” (otherwise known as “repos”)—and, in turn, in helping to forestall contagion in the form of so-called “repo runs”—is misplaced. In developing this contention, three major claims are advanced. First, for all their benefits, CCPs exhibit a major design flaw in as much as they are unable to diversify away market-wide systemic risk when counterparty failures become correlated—as exemplified by the global financial crisis (“GFC”). Secondly, this design flaw is remarkably similar to the flaw which the modern trend towards market-based finance exhibits, again, as revealed during the GFC, and as persists in its more recent “fund-based” guise, and that this parallel cautions against viewing CCPs in an unduly favourable light. That is to say, in much the same way that market-based finance helped to neutralize systemic risk in good or moderately turbulent times pre-crisis, but amplified it in times of acute market turbulence, so too CCPs are liable to exhibit similar tendencies. Finally, although the UK’s new regulatory and supervisory regime applicable to CCPs has much to commend it, these measures are, in fact, likely to be of limited assistance in ensuring that CCPs are able to perform their mutualisation role, or that they do not disrupt financial markets, when things go seriously wrong.*

**Key words:** central counterparties (CCPs); sale and repurchase agreements; repos; repo runs; systemic risk; market-based finance.

## 1. Introduction

The global financial crisis (“GFC”) seemingly highlighted the critical need for well-functioning financial market infrastructures (“FMIs”), such as central counterparties (“CCPs”)—or, as they are often referred to, “clearinghouses”.<sup>1</sup> Acting as sophisticated risk

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<sup>1</sup> In legal terms, a “CCP” is in fact a special type of “clearinghouse”. According to Christian Chamorro-Courtland, “[w]hereas a CCP operates as the ‘principal’ to every transaction entered into by the clearing members and clears through a mechanism called ‘multilateral novation netting’, an ordinary clearing house remains an ‘agent’ and does not perform counterparty substitution or assume liability for any of the transactions it clears. It clears through a mechanism known as ‘multilateral position netting’”: “Central Counterparties (CCP) and the New Transnational Lex Mercatoria” (2011) 10 *Fla St U Bus Rev* 57, at p.60 (footnotes omitted). According to Regulation (EU) 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories—the so-called “European Market Infrastructure Regulation” (EMIR)—a CCP is defined as: “a legal person that interposes itself between the counterparties to the contracts traded on one or more financial markets, becoming the buyer to every seller and the seller to every

management networks which straddle a number of jurisdictions and “clear”<sup>2</sup> financial products that are traded globally, CCPs operate *ex ante* to improve counterparty and collateral risk controls, and *ex post* to ensure that, in the event of a member’s default, the associated losses are fully absorbed and the potential for contagious “runs” averted. Much has been made, for example, of the ability of CCPs to successfully contain Lehman Brothers’ default in 2008 (a bank with significant exposure to the over-the-counter (“OTC”) derivatives market) and prevent the spread of contagion amongst market participants.<sup>3</sup> Moreover, the G20’s post-GFC support for the migration of standardized OTC derivatives to CCPs is emblematic of the increasing significance that these infrastructures have recently acquired.<sup>4</sup> Interestingly, and importantly, the idea that the use of CCPs should be extended to other types of financial transactions is beginning to gain increasing traction.<sup>5</sup> One particular area where this is the case is in relation to Securities Financing Transactions (“SFTs”), the “flagship product”<sup>6</sup> of which is “sale and repurchase agreements” (so-called “repos”).<sup>7</sup> Significantly, as part of its ongoing work on repos and securities lending, the Financial Stability Board (“FSB”) has recommended that authorities should “evaluate the costs and benefits of central clearing in their securities lending and repo markets”.<sup>8</sup> And, more recently,

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buyer.” (Art 2(1)). In the academic literature, however, the terms “clearinghouse” (or “clearing house”) and “CCP” are often used inter-changeably.

<sup>2</sup> “Clearing” is the “process of establishing positions, including the calculation of net obligations, and ensuring that financial instruments, cash, or both, are available to secure the exposures arising from those positions” EMIR, Art 2(2).

<sup>3</sup> Julia L Allen, “Derivatives Clearinghouses and Systemic Risk: A Bankruptcy and Dodd-Frank Analysis” (2012) 64 *Stan L Rev* 1079: “The experience of LCH.Clearnet, Ltd. (LCH) during the Lehman Brothers bankruptcy proceedings provides a recent example of how a clearinghouse can successfully manage a member default and decrease systemic risk.” (at p.1081). It has been estimated that in managing Lehman’s default, the CCP which had the largest exposure—LCH—used only 35% of the bank’s \$2bn of posted collateral. Consequently, there was no need to mutualize the losses amongst clearing members. European Association of CCP Clearing Houses (“EACH”), *An Effective Recovery and Resolution Regime for CCPs* (December 2014), p.5.

<sup>4</sup> The G20 Leaders agreed at the 2009 Pittsburgh Summit that, where appropriate, all standardized derivatives contracts should be traded on exchanges or electronic trading platforms and cleared through CCPs. It was also agreed that all standardized OTC derivatives contracts would be reported to trade repositories and that higher capital requirements would be introduced for non-centrally cleared derivatives contracts.

<sup>5</sup> Bank of England, *The Bank of England’s supervision of financial market infrastructures—Annual Report March 2015* (<http://www.bankofengland.co.uk/publications/Documents/fmi/annualreport2015.pdf>) “FMIs are assuming even greater systemic importance as the international regulatory community encourages more financial activity to take place via centralised infrastructures.” (at p.7).

<sup>6</sup> Euroclear, *Understanding Repo and the Repo Markets* (March 2009) at p.4.

<sup>7</sup> Liz Capo McCormick, “Financial Firms Move Closer to Central Clearing in Repo Market” (Bloomberg, April 13, 2015) (<http://www.bloomberg.com/news/articles/2015-04-13/financial-firms-move-closer-to-central-clearing-in-repo-market>); and Joe Rennison, “Bond Market Seeks Repo Clearing Solution” (The Financial Times, 24<sup>th</sup> November, 2015) (<https://next.ft.com/content/3ff3dcce-928e-11e5-bd82-c1fb87bef7af>).

<sup>8</sup> Financial Stability Board (FSB), *Strengthening Oversight and Regulation of Shadow Banking: An Integrated Overview of Policy Recommendations* (Consultative Document 2012) (“Recommendation 12”) ([http://www.financialstabilityboard.org/wp-content/uploads/r\\_121118.pdf?page\\_moved=1](http://www.financialstabilityboard.org/wp-content/uploads/r_121118.pdf?page_moved=1)) (at p.13).

Powell, a Member of the Board of Governors of the Federal Reserve System, has offered his support to the migration of certain repo transactions to CCPs, arguing that the “central clearing [of highly liquid repo collateral] can produce significant benefits.”<sup>9</sup>

In the US case of *Bevill, Bresler & Schulman Asset Management Corp. v. Spencer S&L Ass’n* (*In re Bevill, Bresler & Schulman Asset Management Corp.*), the Third Circuit defined a repo in the following terms:<sup>10</sup>

A standard [sale and] repurchase agreement, commonly called a “repo,” consists of a two-part transaction. The first part is the transfer of specified securities by one party, the dealer, to another party, the purchaser, in exchange for cash. The second part consists of a contemporaneous agreement by the dealer to repurchase the securities at the original price, plus an agreed upon additional amount on a specified future date. A “reverse repo” is the identical transaction viewed from the perspective of the dealer who purchases securities with an agreement to resell.

In essence, then, a repo is a type of short-term financing that is economically similar to a secured loan.<sup>11</sup> Unlike a secured loan, however, a repo involves the legal transfer of an asset, and thus affords the lender better protection by virtue of immediate access to the collateral in the event of the other party’s default. A repo is also more flexible than a secured loan, in that it allows for “margining” to ensure that the amount of collateral is adjusted to reflect the value of the loan. Furthermore, since the loan that forms the basis of the repo is effectively securitized, and thus can be sold on, repos offer a high degree of liquidity. Although the size of the repo market has contracted significantly from its pre-crisis peak of 2008,<sup>12</sup> more recently it has been estimated to be in the region of €15-20 trillion globally.<sup>13</sup> In terms of their economic significance, repo markets are widely regarded as providing an efficient and diversified source of wholesale funding for financial intermediaries.<sup>14</sup> This is said to help to inject greater liquidity into the financial system and, in turn, to help lower the cost of

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<sup>9</sup> Jerome H Powell, “Central Clearing in an Interdependent World” (Member Board of Governors of the Federal Reserve System at The Clearing House Annual Conference New York, NY November 17, 2015) at p.13.

<sup>10</sup> 878 F2d 742, 743 (3d Cir. 1989).

<sup>11</sup> Mike Williams, *Repo: Its Role in Government Securities Markets—Policy and Operational Issues Arising* (World Bank Group, April 2015), (<http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/10/999111444834071349/FS-Gemloc-PGD1-20150428-Repo-Presentation-Mike-Williams.pdf>).

<sup>12</sup> Bloomberg, *The Repo Market* (<http://www.bloombergtv.com/quicktake/the-repo-market>).

<sup>13</sup> Richard Comotto, *A Supplementary Note on the Systemic Importance of Collateral and the Role of the Repo Market* (International Capital Market Association’s (“ICMA”) European Repo Council, 7 May, 2013) at para 4.8.

<sup>14</sup> ICMA, Frequently Asked Questions (FAQs) “Question 3. Why is the repo market so important and why has the use of repo grown so rapidly?” (<http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/frequently-asked-questions-on-repo/3-why-is-the-repo-market-so-important-and-why-has-the-use-of-repo-grown-so-rapidly/>).

financial services activity more generally.<sup>15</sup> In doing so, repo markets are thought to provide the type of financial hinterland that retail banks and other lenders require to service the financing needs of the real economy.<sup>16</sup> What is more, repo markets play an important role in providing a liquid market for government securities, thus facilitating governments in their efforts to raise the finance necessary to make good on their public spending commitments.<sup>17</sup>

Yet, notwithstanding the widely acknowledged benefits of repo markets, this article is concerned with the important question of whether CCPs can resolve a key vulnerability associated with repo trading which, under certain conditions, could have far-reaching adverse consequences for the stability of financial markets more broadly. This vulnerability revolves around the fact that short-term collateralized loans such as repos are liable to become highly unstable during times of market stress.<sup>18</sup> As a result, any threat to the collateral “backing” the expansion in credit volume created by the repo, or, indeed, to the solvency of either counterparty, can help to generate—and, through interconnecting chains of complex and potentially opaque transactions, augment and subsequently transmit—systemic risk by way of so-called “repo runs”.<sup>19</sup> Tellingly, a number of studies now support the contention that a “repo run” was an important component of the GFC,<sup>20</sup> and, accordingly, the threat of such runs are today regarded as an important cause for regulatory concern.<sup>21</sup>

Set against this background, the article provides, a critical—and ultimately sceptical—assessment of the role and effectiveness of CCPs in addressing both counterparty and collateral risk in the context of repo transactions so as to forestall repo runs and avert systemic risk. In developing this line of argument, three major claims are advanced. First, that

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<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

<sup>17</sup> *Ibid.*

<sup>18</sup> See, Antoine Martin, David Skeie, and Ernst-Ludwig von Thadden, “Repo Runs” (2014) 27(4) *The Review of Financial Studies* 957 – 989; Garry B Gorton and Andrew Metrick, “Securitized Banking and the Run on Repo” (2012) 104 *Journal of Financial Economics* 425–451; and Adam Copeland, Antoine Martin, and Michael Walker, “The Tri-party Repo Market Before the 2010 Reforms” (2010) *Federal Reserve Bank of New York* (Staff Report No 477).

<sup>19</sup> See, European Securities and Markets Authority (“ESMA”), *Trends, Risk and Vulnerabilities* (No 1, 2013) at p.35. The concept of a “repo run” is widely associated with Gorton and Metrick’s seminal work on shadow banking see, eg Gary B Gorton and Andrew Metrick, “Regulating the Shadow Banking System” (2010) *Brookings Papers on Economic Activity*, 261 (referring to “run on repo”).

<sup>20</sup> See, for example, Gorton and Metrick, *supra* n 17; and Copeland *et al*, *supra* n 17. However, see, Benjamin Munyan, “Regulatory Arbitrage in Repo Markets” (Office of Financial Research Working Paper, 29 October, 2015) (arguing that runs were perhaps only the symptom of more general de-leveraging rather than a run on repo and that more evidence is needed) (at p.45).

<sup>21</sup> See for example, FSB, *Strengthening Oversight and Regulation of Shadow Banking Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos* (29 August 2013); and ESMA, *supra* n 19, pp.35–38.

for all their benefits, CCPs exhibit a major design flaw in as much as they are unable to diversify away market-wide systemic risk when counterparty failures become correlated—as exemplified by the GFC. Secondly, that this design flaw is remarkably similar to the flaw which the modern trend towards market-based finance exhibits, again, as revealed during the GFC, and as persists in its more recent “fund-based” guise, and that this parallel cautions against viewing CCPs in an unduly favourable light. That is to say, in much the same way that market-based finance helped to neutralize systemic risk in good or moderately turbulent times pre-crisis, but amplified it in times of acute market turbulence, so too CCPs are liable to exhibit similar tendencies. Finally, although the UK’s new regulatory and supervisory regime as applicable to CCPs has much to commend it, these measures are, in fact, likely to be of limited assistance in helping to address the problems identified above, or in ensuring that CCPs do not disrupt financial markets, when things go seriously wrong. Moreover, notwithstanding the introduction of new so-called “recovery” and “resolution” tools, there is a very real danger that, in providing CCPs with a more high-profile quasi-regulatory role, they will themselves morph into “too-big-to-fail” entities, and thereby augment moral hazard problems.

Concerns about the role of CCPs in forestalling contagious runs have gained greater market and regulatory piquancy since the introduction of the so-called “European Market Infrastructure Regulation” (“EMIR”),<sup>22</sup> which gives legal effect within the EU to the G20’s 2009 support for the mandatory migration of standardized OTC derivatives to CCPs.<sup>23</sup> Although EMIR applies only to derivatives trading, it underscores the growing importance of CCPs, and indeed of FMIs more generally, and provides a highly sophisticated regulatory framework which would, most likely, be adapted to regulate the mandatory clearing of a broader range of financial transactions, including repos. The specific jurisdictional focus of the article is on the regulatory and supervisory arrangements which apply in the UK, albeit that these are filtered through both EU rules and global initiatives.

In exploring and developing the above ideas, the material is structured as follows. Section 2 addresses the issue of the role and significance of CCPs in modern day financial markets, with a particular focus on repo transactions. Section 3 looks at problems associated with the potential migration of repo transactions to CCPs, in particular, their inability to

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<sup>22</sup> *Regulation (EU) 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories* (OJ No L 201, 27.7.2012, p.1).

<sup>23</sup> In the US, the primary legislation governing the regulation of OTC derivatives markets can be found in the Dodd-Frank Act (Title VII).

diversify away market-wide systemic risk when counterparty failures become correlated. In this context, the section also seeks to demonstrate the existence of worrying parallels between the clearing of “repos” via CCPs on the one hand, and the modern trend towards market-based finance on the other, which caution against viewing CCPs in an unduly favourable light. Section 4 provides a somewhat jaundiced assessment of the ability of new regulatory and supervisory measures as applicable to CCPs to ensure that, as private entities, they act in ways which foster the public good, and that their operations do not disrupt financial markets when things go seriously wrong. Finally, section 5 draws together the various strands of the discussion.

## ***2. The role and significance of CCPs***

Absent the services of a CCP, contracting parties to a repo—or indeed any financial contract—would need to assess the risk of the other party’s default (ie counterparty risk). Specifically, in a repo, the collateral-taker/cash-lender would need to: (i) ensure that the collateral posted (ie the “initial margin”) was sufficient to reflect the risk that, at some future date, it might need to be liquidated to cover the value of the loan; and (ii) undertake proper “margin maintenance” (via “variation margin”) during the life of the repo to ensure that the fluctuating value of collateral posted continued to match the value of the loan. In markets characterised by perfect competition, the interplay of market forces might be thought to eliminate—or at least reduce—the type of suboptimal risk assessments that could cause one counterparty to default and set in motion a series of contagious runs which adversely affect the entire financial services network.

However, notwithstanding recent attempts to improve transparency within repo markets,<sup>24</sup> optimal counterparty risk and collateral risk assessments are likely to be impaired by the prevalence of acute market failures which give rise to underappreciated risks. Most fundamentally, counterparties have an incentive to shirk their responsibilities and “free ride” on the due diligence and risk monitoring efforts of others. Thus, for example, where a cash-

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<sup>24</sup> See, for example, the EU’s recent Securities Financing Transactions Regulation (“SFTR”), most of which came into effect on 12 January 2016: *Regulation (EU) 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse and amending Regulation (EU) No 648/2012*.

lender's exposure to its counterparty is relatively small, the lender will prefer that the full cost of any due diligence and risk assessment of a cash-borrower's risk profile be borne by other lenders rather than themselves. The end result is a *general* tendency for firms to economise on counterparty risk assessment and an overall erosion of the disciplinary effects of private monitoring notwithstanding improvements in market transparency. This collective underinsurance in relation to risk assessment and underinvestment in the infrastructure and policies that would otherwise help to promote financial stability mean that it is likely that some repo risks will continue to be mispriced. In turn, this mispricing has potentially serious implications for the stability of financial markets where firms exhibit herd-like instincts and simultaneously seek (or need) to liquidate similar forms of collateral in times of market turbulence. Accordingly, the continuing presence of serious informational problems, and other market failures of the type mentioned above, make it unlikely that the operation of private counterparty constraints in the form of, for example, counterparty risk controls will ensure that private interests do not conflict with the public good.

Against this backdrop, it has been suggested that CCPs can provide a workable solution to the problems highlighted above. CCPs seek to contain and disperse the risks associated with counterparty defaults, by acting as a “firewall” between the defaulting firm and any contagion-like loss flowing from the default which might otherwise threaten the financial system. The CCP does this by guaranteeing to honour the obligations of each counterparty to the contract, thereby removing any risk of counterparty default and any adverse ramifications associated with such an event. In the context of a repo trade, the CCP achieves this through a process of novation. This entails the CCP interposing itself between the repo buyer and repo seller, both of which are CCP members, so that the buyer and seller's original contract is extinguished and replaced by two new contracts: one between the buyer and the CCP; and the other between the seller and the CCP. Scaled across the entire CCP network, the CCP becomes the proverbial “buyer to every seller and the seller to every buyer”. In the unlikely event that a counterparty does become insolvent, the CCP—supported by a series of risk management arrangements that it has put in place and a pool of financial resources that it may call upon (including, as is discussed below, its own funds if necessary)—seeks to ensure that the defaulting party's obligations are fulfilled and that potential contagion is averted. Thus, to the extent that a CCP can be characterized as a proxy or surrogate regulator, the mandatory clearing of certain types of repo trades would involve



the displacement of private, bilateral counterparty risk assessments, on the one hand, by quasi-regulatory—and hence, quasi-public—assessments, on the other.

In performing this role, a CCP offers both *ex ante* and *ex post* solutions to the problem of counterparty default and collateral risk. From an *ex ante* perspective, CCPs seek to engage in more rigorous counterparty risk assessments and undertake better margin maintenance than the parties themselves, thus minimizing the chances of default. In comparison with individual firms, CCPs are thought to be more likely to undertake timely and judicious risk assessments of counterparties. Not only are they said to be better resourced and, by virtue of the specialized role they perform, reckoned to be better placed than individual firms to undertake risk assessments, but, as discussed below, they also have greater incentives to do so owing to the fact that some of their own capital is potentially at risk if a member firm defaults and the firm's collateral is insufficient to cover attendant losses. Centralized trading is also thought to give CCPs an unrivalled vantage point from which to survey the entire market and to take decisions which minimise both counterparty and collateral risk. Accordingly, in contrast to decentralized, bilateral repo trading where only one party is over-collateralized, a CCP takes “initial margin” from both counterparties at the outset, and by monitoring and adjusting the amount of “variation margin” needed on a daily basis to cover changes in the value of the collateral initially posted and the market value of a member firm's positions, a CCP performs an important role *ex ante* in helping to prevent defaults from occurring.<sup>25</sup>

From an *ex post* perspective, CCPs have a wide range of resources available to them in the event of a member firm's default, and are buttressed by a supporting membership network, which combines to “insure, mutualize, and thereby dissipate the risk” that a single firm's failure will adversely affect the viability of other interconnected financial firms.<sup>26</sup> In other words, by sharing, or spreading, risk within the CCP membership network, CCPs help to forestall wider systemic collapse. Consequently, a repo cash-lender that might otherwise be fearful that a defaulting counterparty could cause it to falter, can rest assured that the CCP will honour the agreement (or will have in place measures to ensure that the agreement is fulfilled).<sup>27</sup> In absorbing counterparty defaults in this way, CCPs help to prevent transmission

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<sup>25</sup> See, Bob Hills, David Rule, Sarah Parkinson, and Chris Young, “Central counterparty clearing houses and financial stability” (1999) June *Bank of England Financial Stability Review*, at p.122.

<sup>26</sup> Mark J Roe, “Clearinghouse Overconfidence” (2013) 101 *California Law Review*, 1641, at p.1647. See also Amandeep Rehlon and Dan Nixon, “Central Counterparties: what are they, why do they matter and how does the Bank supervise them?” (2013, Q2) *Bank of England Quarterly Bulletin* 1, at pp.1-2.

<sup>27</sup> Roe, *ibid.*, at p.1678.

of the adverse effects of a member's default to the wider financial system and, in turn, the economy.

CCPs have the capacity to absorb the risk of counterparty default because of the resources which they may call upon—collectively known as a “default waterfall”—to help fulfil the defaulting counterparty's obligations. A typical example of a CCP's default waterfall is provided in figure 1 below. In determining the structure of the waterfall, and in particular the order in which the resources are to be utilised in the event of default, the CCP must ensure that an appropriate balance is struck between the “defaulter pays”/ “non-defaulter pays” (ie mutualisation) principle, and therefore seeks to ensure that participants in the CCP arrangement—including the CCP itself—have the appropriate incentives and disincentives to act in ways which “support orderly default management”.<sup>28</sup> Thus, if the CCP is unable to “auction off” the defaulter's positions among surviving members, it will usually have resort to the defaulting member's initial/variation margin and, if necessary, the defaulting party's contribution to the CCP's default fund—into which all members must pay upon joining the scheme.<sup>29</sup> If this is insufficient to cover the losses, the CCP will then contribute some of its own capital to help absorb losses. This so-called “skin in the game” requirement ensures that a CCP is incentivised to undertake efficient margin maintenance from the outset so as to avoid the need to put any of its own capital at risk. Indirectly, this also has the effect of limiting the degree to which losses are passed on to non-defaulting members.<sup>30</sup> Accordingly, it is only if the CCP's own contribution is insufficient that the losses are mutualized—ie shared—amongst all the other (non-defaulting) members. This happens in two ways: first, the CCP may use the non-defaulting CCPs members' contributions to the default fund; and secondly, if “these loss-absorbing resources (which up to this point are all pre-funded) are exhausted, ... [a CCP] may call on surviving members to contribute a further amount, usually up to a pre-determined limit.”<sup>31</sup> In the event that all the abovementioned resources prove insufficient to cover the losses sustained by a CCP member's default, the CCP's remaining capital becomes the last line of defence against counterparty default. Should this also prove insufficient, the CCP would become insolvent.

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<sup>28</sup> EACH, *supra* n 3, at p.6.

<sup>29</sup> *Ibid.*, at pp.7-11.

<sup>30</sup> Rehlon and Nixon, *supra* n 25, at p.5.

<sup>31</sup> *Ibid.*

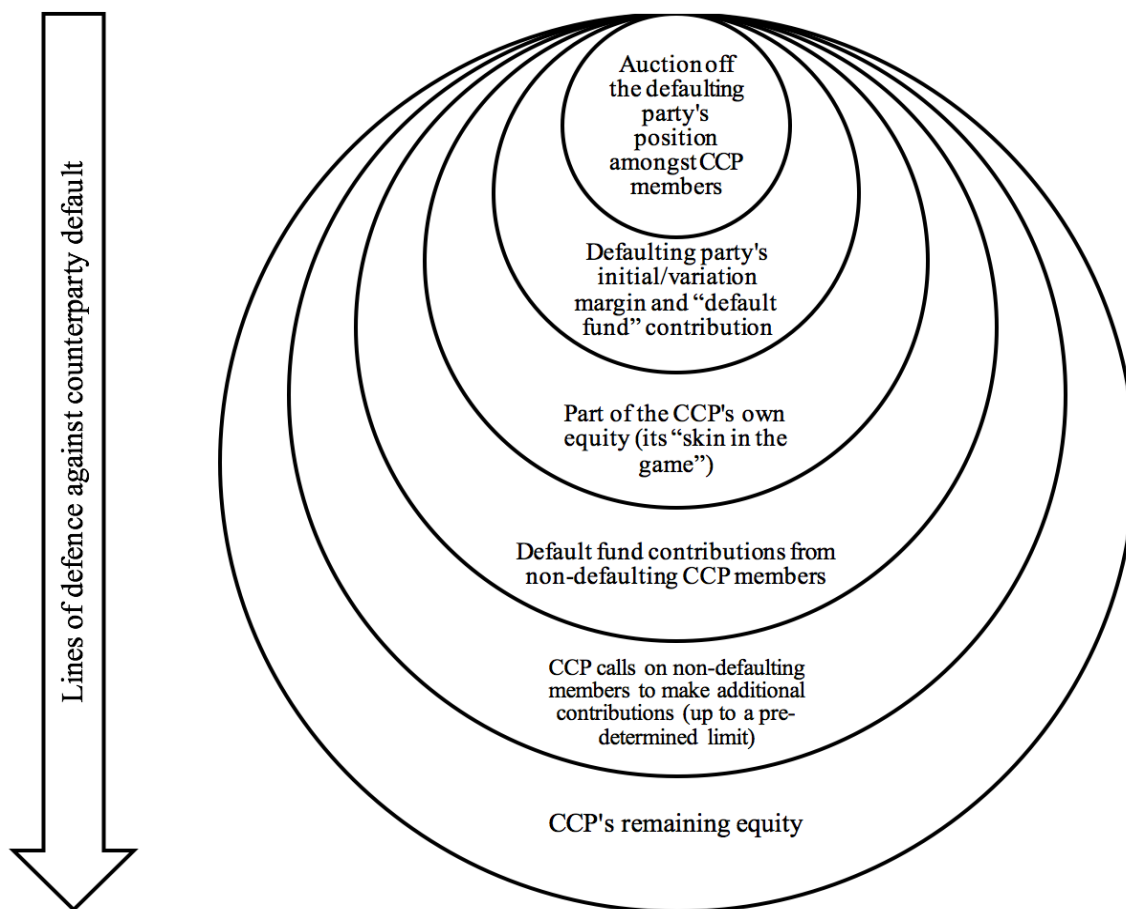


Figure 1 - a typical default waterfall

A further benefit of using CCPs is the reduction in counterparty risk associated with the multilateral netting services they provide. These services simplify any outstanding exposures between participating market players by “offsetting an amount due from a member on one transaction against an amount owed to that member on another, to reach a single, smaller net exposure”.<sup>32</sup> The operation and effect of netting in this context is explained by the Squam Lake Working Group:<sup>33</sup>

“Suppose, to pick an ideal example, that Dealer A has an exposure ... to Dealer B of \$1 billion . . . . That is, if Dealer B fails, then A would lose \$1 billion. Likewise, B has an exposure to Dealer C of \$1

<sup>32</sup> *Ibid.*, p.4.

<sup>33</sup> Squam Lake Working Group on Financial Regulation, “Credit Default Swaps, Clearinghouses, and Exchanges” 3 (Council on Foreign Relations, Center for Geoeconomic Studies, Working Paper, 2009), (available at <http://www.cfr.org/financial-crises/credit-default-swaps-clearinghouses-exchanges/p19756>) cited in Roe, *supra*, n 26, at fn 68.

billion, and C has an exposure to A of \$1 billion. Without a clearinghouse, default by A, B, or C leads to a loss of \$1 billion [by one of the other two]. With clearing, however, the positive and negative exposures of each counterparty cancel, and each poses no risk to anyone, including the clearinghouse.”

In the event that the exposures do not cancel one another out neatly, as in the above example, netting can nevertheless produce a single net exposure.<sup>34</sup> The clearing of transactions and netting of exposures, especially in the context of a member firm’s default, to arrive—once all sums owed are offset—at a single sum, helps to reduce counterparty risk and alleviate liquidity pressures on participating members (and putatively the wider financial system) in times of acute market stress. As such, the netting services provided by CCPs contribute, at least in part, to preventing counterparty failures from spilling over to other interconnected too-big-to-fail institutions.

### 3. *Problems associated with the use of CCPs*

Yet, for all the claimed advantages associated with mandating the use of CCPs to clear repo and other trades, a number of leading commentators have expressed grave concerns about what has been, disparagingly, referred to as the “clearinghouse cure”.<sup>35</sup> Roe, for example, has argued that the effectiveness of CCPs is overstated in relation to the core risk that they are said to mitigate, namely that they will prove effective in preventing the failure of one financial firm from spreading to other financial firms to fail.<sup>36</sup> At the heart of Roe’s critique of CCPs is his inversion of their most significant claimed advantage: the mutualization principle. While Roe accepts that CCPs can in some instances help to neutralize risk, in his view, very often—and especially in times of crisis—CCPs do not in fact eliminate the targeted risk from the financial system.<sup>37</sup> Instead, argues Roe, CCPs merely serve to transfer that risk to other institutions—typically via member firms’ financial contracts with firms outside of the clearing system—that may or may not be well placed to bear it.<sup>38</sup> If these

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<sup>34</sup> However, since CCPs tend to specialise in particular financial instruments, this reduces the scope for netting across products, which is possible in the context of bilateral trades.

<sup>35</sup> Craig Pirrong, “The Clearinghouse Cure” [2008–2009] *Winter Regulation* 44. See also, Roe, *supra* n 26; and Allen, *supra* n 3.

<sup>36</sup> Roe, *ibid.*, at p.1699

<sup>37</sup> *Ibid.*, “Although [CCPs] are efficient financial platforms in ordinary times, they do little to reduce systemic risk in crisis times.” (at p.1641).

<sup>38</sup> *Ibid.*, at p.1646 (“The clearinghouse ... primarily transfers losses, without decreasing the system’s total riskiness, turning the key question into whether those who are made to bear the systemic risk can handle it better than those who transfer it.”); and Hills *et al*, *supra* n 25, at p.127.

institutions are themselves systemically important, or too-big-to-fail, it follows that CCP arrangements may in fact funnel contagion to these vulnerable, yet vital institutions.<sup>39</sup> This is particularly problematic given that, as has been illustrated in the previous section, a defaulting CCP member's collateral is posted and subsequently liquidated to protect other CCP members, and therefore it is unavailable to honour obligations owed outside the CCP network. Consequently, unless these non-member firms are able to adjust for their exposure to this risk, ~~the risk~~it is merely directed elsewhere rather than eliminated.

In this context, Roe further claims that although CCPs may be able to absorb and diversify away so-called “idiosyncratic risk”, risk-spreading—ie diversification—cannot successfully combat market-wide systemic risk where counterparty failures arise simultaneously, as occurred during the financial crisis.<sup>40</sup> To the extent that any system-wide shock adversely affects the value of widely held forms of collateral, thus provoking a wave of deleveraging by cash-starved firms, collateral sales by CCPs in response to member firm defaults are liable to exacerbate downward pressure on prices. In such circumstances, CCPs are also likely to find themselves between the proverbial “rock and a hard place”, conflicted between regulatory responsibilities to act in the public interest and their private commercial need to generate profit. It is, for example, entirely possible that the commercial success of a CCP will be linked to the short term interests of a small number of vital member firms, and there is no guarantee that, at critical times—and especially when firms are hard pressed to meet margin calls and rollover their debt obligations—that the interests of these firms will be fully or even adequately aligned with the public good. Here, CCPs are more likely to be part of the problem rather than the solution, deepening the adverse impact of fire sales and adding to any ensuing panic, as CCPs and their member firms scramble for liquidity.

These difficulties are also likely to be compounded to the extent that CCPs become victims of their own success. That is to say, as an ever-wider range of trades are rendered subject to mandatory clearing, not only will high-quality collateral become more thinly “stretched” (and thus potentially cause CCPs to accept lower-quality collateral to compensate for the dearth of better-quality assets), but there is more centralization of risk and greater potential for mass fire-selling in the event of a shock. Likewise, insofar as CCPs place greater collective reliance on a narrow range of risk-management methodologies, such as changes to

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<sup>39</sup> Roe, *ibid.*, at p.1641.

<sup>40</sup> *Ibid.*, at p.1677 (“Regulators have extolled mutualization’s potential for dissipating risk as a core benefit of the clearinghouse, but they have been focusing on clearinghouse’s potential to handle an isolated failure (or handful of failures), while not paying enough attention to the conceptual problem of correlated failures.”).

haircuts or collateral eligibility, this could have the effect of synchronising market responses to market events in ways which are self-reinforcing and that result in the transmission of shocks to the financial system. According to the International Capital Markets Association (“ICMA”), the imposition of aggressive haircuts by CCPs arguably adversely affected the capital raising capabilities of Greece, Ireland, Italy, Portugal and Spain in 2011, and increased the cost of servicing their debts.<sup>41</sup> Consequently, at the very stage when the putative protections associated with CCPs are deemed most vital, by seeking to protect themselves—and thus their members—from losses, CCPs are in fact most likely to expose their “Achilles heel” by acting as conductors of risk.

What is more, as this article seeks to show, there are in fact dangerous parallels between the animating rationales for the clearing of more financial transactions, such as repos, via CCPs on the one hand, and the modern dominance of so-called “market-based finance” on the other, which renders increased faith in CCPs to mitigate systemic risk a cause for grave concern. While both CCPs (directly), and market-based finance (indirectly), seek to harness the claimed benefits of risk-spreading, by repackaging risk so as to spread it amongst participants within their respective interconnecting networks, they both exhibit a similar core flaw. That is to say, any shock which adversely affects the underlying collateral on which a CCP-conducted transaction is based, or which disrupts the underlying transactional chains which characterise market-based finance, can create and transmit systemic risk through their respective interlinked and highly interdependent networks. In the case of market-based finance, this flaw was acutely exposed in the so-called “originate-to-distribute” model that was a core feature of much financial market activity at the time of the GFC, and, it is argued, in spite of numerous post-crisis reforms, endures in the “newer”, so-called “fund-based” model which has emerged in more recent years.<sup>42</sup> Therefore, given that CCPs and market-based finance are linked closely to the same underlying premises regarding the mutualization of risk within their respective networks, the discussion of the flaws of market based finance that follows below—first in its older form and then in its more recent guise today—provides an important, not to mention, instructive insight into the risks associated with greater reliance upon CCPs to help avert repo runs in a time of crisis.

Before the GFC, the rise of market-based “originate-to-distribute” finance was a response to perceived weakness associated with the traditional “originate-to-hold” model of

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<sup>41</sup> ICMA, FAQs, *supra* n 14, “Question 27. What does a CCP do? What are the pros and cons?”

<sup>42</sup> See, *infra*, n ? and accompanying text.

banking, where banks held loans to maturity, and, as a result, credit risk was dangerously concentrated.<sup>43</sup> By contrast, securitized “originate-to-distribute” banking involved the pooling of often highly illiquid assets, and the transformation of those assets into more marketable securities. In the case of “simple” securitizations, reasonably homogenous assets, generally with a lower risk profile, were pooled and then sold on.<sup>44</sup> More complex securitizations (so-called “second-tier” and “higher-tier” securitizations), by contrast, involve a pool of bank loans being sold by the bank (as the “originator”) to a bankruptcy remote, off-balance sheet special purpose vehicle (“SPV”).<sup>45</sup> The SPV was usually a thinly capitalized single purpose company whose shares were held by someone other than the originator. Since the SPV was not a subsidiary of the bank, it did not appear as part of the bank’s consolidated accounts (hence its off-balance sheet status). Moreover, in view of the fact that the SPV was a separate legal entity, the originator was not legally responsible for its obligations (thus rendering it bankruptcy remote). A primary motivation behind the use of such structured investment vehicles by banks was to avoid regulatory requirements, such as “minimal capital requirements, liquidity requirements, [as well as] reporting requirements and governance requirements.”<sup>46</sup>

Having purchased the pool of bank loans/assets, the SPV was then entitled to the interest payments and the principal sum made by the original borrowers. Acting on behalf of the SPV and in return for a fee, the originating bank collected the stream of cash flows associated with the re-packaged assets. To pay the bank for the loan pool, the SPV parcelled together the newly acquired loans (which included securitized mortgages, credit card receivables, car loan receivables etc) into securities which were backed by the cash flows (interest and principal payments) from the underlying loans (hence the term asset-backed securities) and then sold on to investors. Additional finance was typically secured via short term loans, which made such vehicles highly vulnerable in the event that funders lost confidence. In an attempt to make the newly issued asset-backed securities more attractive to investors, various tranches were issued, each exhibiting different risk-return characteristics.<sup>47</sup>

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<sup>43</sup> House of Commons Treasury Committee, *House of Commons, Financial Stability and Transparency: Sixth Report of Session 2007-08* (HC 371) (March 2008) at para 43 or para 45 (hereinafter HC, *Financial Stability*). See also, Gorton and Metrick, *supra* n 18, at pp.425-451.

<sup>44</sup> House of Commons Treasury Committee, *House of Commons, Financial Stability and Transparency: Sixth Report of Session 2007-08* (HC 371) (March 2008) at para 45 (hereinafter HC, *Financial Stability*).

<sup>45</sup> *Ibid.* For problems associated with this form of securitization, see, John C Coffee, “Enhancing Investor Protection and the Regulation of Securities Markets” Testimony Before the United States Senate Committee on Banking, Housing and Urban Affairs” (March 10, 2009) 53.

<sup>46</sup> Coffee, *ibid.*

<sup>47</sup> HC, *Financial Stability*, *supra* n 42.43, at para 59.

In the event that losses occurred, these were, in effect, apportioned on a sliding scale according to investors' appetite for risk. In its Sixth Report on *Financial Stability and Transparency*, the House of Commons Treasury Committee explained the process as follows:<sup>48</sup>

In a common three-tranche, the least risky, or 'senior', tranche has the first claim on payments from the pooled mortgages. The 'senior' tranche has the highest credit rating, often triple-A investment grade, but receives a lower rate of interest than the other tranches. After the senior claims are paid, the middle or mezzanine tranche receives its payments. Mezzanine represents greater risk and usually receives below-investment grade credit ratings and a higher rate of return. The lowest, or equity, tranche receives payments only if the senior and mezzanine tranches are paid in full. The equity/first-loss tranche absorbs initial losses. Equity tranches are therefore the most risky tranche and consequently often unrated, but as a consequence offer the highest rate of return. This process, whereby losses are applied to more 'junior' tranches before they are applied to more 'senior' tranches, is known as subordination and is one, albeit important, form of credit enhancement.

In other words there existed a "credit cushion" whereby the pool of mortgages or other securitized assets were structured in such a way as to "absorb a certain amount of losses before [any were sustained] at the triple-A level."<sup>49</sup>

As noted above, this securitized—or "originate-to-distribute"—model of credit intermediation was originally inspired by a desire to mitigate the concentration of risks on bank balance sheets associated with the traditional "originate-to-hold" model. It sought to do this by re-packaging and dispersing credit risk in the belief that greater diversity amongst investors within the wider financial network would reduce the likelihood of a common response to unexpected events—and that, as a result, financial stability would be promoted.<sup>50</sup> As the International Monetary Fund ("IMF"), claimed as little as a year or so before the financial crisis broke:

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<sup>48</sup> *Ibid.*, at para 60.

<sup>49</sup> I Bell, Managing Director and Head of European Structured Finance at Standard & Poor's, quoted *ibid.* In addition to tranching (or subordination), this credit cushion was bolstered by way of a number of other 'credit enhancements'. For example, the use of: third party guarantees; excess serving techniques (which ensured that pre-set amounts of interest were expressly set aside from the servicing of the collateral to ensure that any short falls in cash flow for the senior tranche were covered); and, residual trading techniques (the apportionment of additional cash flows beyond those used for excess servicing). See, *ibid.*, at para 61.

<sup>50</sup> IMF's *Global Financial Stability Report* (April, 2006) at p.51, cited in the Turner Review, *A Regulatory Response to the Global Banking Crisis* (Financial Services Authority (FSA), March 2009) (hereinafter *Turner Review*), at para 1.4(ii).



“[T]he dispersion of credit risk by banks to a broader and more diverse set of investors, rather than warehousing such risk on their balance sheets, has helped make the banking and overall financial system more resilient[. Dispersion of such risks helps to] mitigate and absorb shocks to the financial system[, resulting in] fewer bank failures and more consistent credit provision”.

Yet, despite the ability of this market-based model to weather a number of market disruptions over the years, the events associated with the financial crisis exposed fundamental weaknesses in the model’s ability to mutualize risk within its wider network in the ways that were originally envisaged. These weaknesses not only revolved around the mispricing of risk due to perverse remuneration policies, poor due diligence and underwriting practices, inaccurate credit rating agency (“CRA”) risk assessments and so on, but were, in fact, more deep-seated.<sup>51</sup> The securitization models which underpinned the use of this version of market-based finance failed adequately to take into account system-wide shocks which prompted correlated responses by market participants to act in a herd-like manner in search of liquidity and/or better quality collateral. Accordingly, at the very moment when the mutualization of risk which market-based finance promised was, in fact, most sorely needed, it revealed a series of self-reinforcing linkages and interconnections through which contagion quickly and dangerously spread.

Given the vulnerabilities associated with the form of securitization exposed by the GFC, and the post-crisis reforms imposing more stringent capital adequacy requirements and accounting standards in relation to banks’ exposure to off-balance sheet entities, it is perhaps unsurprising that “the pre-crisis institutional landscape of securitization intermediaries has almost entirely disappeared.”<sup>52</sup> Instead, post-GFC most off-sheet balance entities such as SPVs have been reintegrated back onto banks’ balance sheets,<sup>53</sup> and a newer, so-called “fund-based” model, of market-based finance has emerged in which “cash portfolio and risk portfolio managers’ functions are intermediated through dealers.”<sup>54</sup> In a recent article, published as part of the Financial Conduct Authority’s (“FCA”) influential Occasional Paper

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<sup>51</sup> Lord Turner has previously suggested that the securitized credit intermediation model may exhibit “inherent” problems: “irrational swings in prices of credit securities held by banks, and thus in their capital resources, are likely to be far more economically significant than irrational swings in the prices of equity investments held by end investors. It is therefore possible that the growth of the securitised credit intermediation model ... increased systemic risk in ways which are not just the result of poor execution—bad remuneration policies, inadequate risk management or disclosure, failures in the credit rating process—but [which are] inherent.” *Turner Review*, *ibid.*

<sup>52</sup> Matteo Aquilina and Wladimir Kraus (both of whom work in the Chief Economist Department of the FCA), *Market-Based Finance: Its Contributions and Emerging Issues* (FCA Occasional Paper, No 18, May 2016) at p.18.

<sup>53</sup> *Ibid*, p.18.

<sup>54</sup> *Ibid*, p.9.

series, Aquilina and Kraus (both of whom work in the Chief Economist Department of the FCA) set out what they acknowledge is a “highly stylized and simplified” model of the key elements of this newer conception of market-based finance:<sup>55</sup>

“The Capital Funding Bank (CFB) separates the risks (duration and credit) of some underlying asset such as residential mortgage backed security (RMBS) using derivatives, Interest Rate Swaps (IRS) and Credit Default Swaps (CDS) and manages their transfer. The risks are transferred (sold) to the Asset Manager (AM) who parks these risks as (contingent) liabilities in some fund on behalf of clients (investors) who become the ultimate and only bearers of the risk in the system. After the risk transfer, the CFB ends up holding CDS and IRS contracts as contingent assets, but also, and importantly, an essentially risk-free, short-term asset, akin to a short-term T-bill. The CFB then uses that leftover riskless piece as collateral to obtain funding from the AM. But just as this riskless piece is the AM's asset, it at the same time constitutes a funding liability of the CFB. Similarly, the derivatives are the AM's contingent liabilities as they are contingent assets of the CFB.”

Interposed between the CFB and the AM are two important intermediaries: the “derivatives dealer” which makes the markets in the risk transfer for the derivatives from the CFB to the AM by intermediating risk flow and establishing the price of risk; and the “global money dealer” which makes the markets in the collateralized funding obtained by the CFB from the AM.<sup>56</sup> These dealers set market prices by providing their own balance sheets to absorb trading flows. Their function is, therefore, confined to market-making, in that they do not purchase securities on their own account. Instead, they are matched-book dealers.<sup>57</sup> Thus, in contrast to traditional banking, which seeks to link ultimate borrowers and ultimate savers, the fund-based model of market-based finance entails financial institutions becoming so-called “dealer banks that purchase bond portfolios”,<sup>58</sup> resulting in a system which links “cash portfolio managers and risk portfolio managers who in turn manage ultimate savers’ savings.”<sup>59</sup>

Significantly, this fund-based model of market-based finance is regarded as an improvement on more traditional forms of such finance in that it harnesses the benefits of

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<sup>55</sup> *Ibid*, p.39-40. This section draws heavily on the Aquilina and Kraus paper, *supra* n 52, since the authors provide both the most recent and most comprehensive overview of the relevant literature, and, in doing so, offer a helpful distillation of post-GFC market based finance's key characteristics.

<sup>56</sup> *Ibid*, p.13

<sup>57</sup> *Ibid*, p.40

<sup>58</sup> *Ibid*, p.12

<sup>59</sup> Zoltan Pozsar, “Shadow Banking and the Global Financial Eco-System” (2013) November 7 *VoxEU* (available online at <http://www.voxeu.org/article/global-financial-ecosystem-0>) [Accessed July 26, 2016], cited in Aquilina and Kraus, *ibid*.

risk-spreading and mutualization, while at the same time operating with much lower leverage and maturity transformation. As such, the business models of the entities involved entail less dependence on banks and insurance companies to provide liquidity and credit risk backstops.<sup>60</sup> Nevertheless, this newer model also exhibits a number of critical weaknesses, many of which resonate with some of the earlier deficiencies associated with market-based “originate-to-distribute” securitizations. For example, in most cases, fund-based market-based finance involves long, complex and, therefore, opaque intermediation chains, as risk becomes more and more diversified (and therefore concealed).<sup>61</sup> Indeed, as the Aquilina and Kraus openly acknowledge, since the model they develop does not fully reflect the real-world complexities of modern-day financial markets,<sup>62</sup> the exact form in which the ultimate investors (ie those investing in funds run by asset managers) hold their wealth, and consequently the exact institutional forms and levels of complexity evident in the processes of intermediation associated with the fund-based form of market-based finance will vary considerably.<sup>63</sup> The lack of transparency created by these long and complex chains of intermediation are, however, capable of misleading not only intermediaries, but also investors and regulators, as to the exact size and location of risk, allowing it to accumulate “unnoticed and unchecked giving rise to the possibility that, when hidden risks suddenly become apparent, market participants panic.”<sup>64</sup> This is particularly problematic, since the fund-based model of market-based finance is heavily dependent on intermediaries to make markets and determine prices in both assets and funds. Put differently, both derivatives traders and global money dealers play an “essential role in ensuring the smoothness and efficiency of credit intermediation from the ultimate savers to the ultimate borrowers.”<sup>65</sup> Thus, as the Aquilina and Kraus explain:<sup>66</sup>

“The main risk to the stability and efficient working of a globally interconnected system is the failure of the dealer markets to provide efficient pricing of funding and asset risk exposure. Failure of the dealer markets to perform their market making functions is likely to lead to disruptions in market liquidity and risk transfer mechanisms well beyond local epicentres of initial stress.”

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<sup>60</sup> Aquilina and Kraus, *ibid.*, at p.9

<sup>61</sup> Indeed, as the Aquilina and Kraus point out: “[f]or example, loans of lower quality may require a longer chain and more complex techniques to enhance the quality of the manufactured asset-backed securities to be able to offload them to money market mutual funds and other end investors, thereby masking, rather than truly diversifying, the underlying risks in the process.” *Ibid.*, at p.24.

<sup>62</sup> *Ibid.*, at p.39.

<sup>63</sup> *Ibid.*, at p.13.

<sup>64</sup> *Ibid.*, p.24.

<sup>65</sup> *Ibid.*, p.13.

<sup>66</sup> *Ibid.*, p.14.

In particular, given that all, or many, positions within a fund-based model of market-based finance are collateralized, a shock affecting the value of the underlying collateral can create and transmit systemic risk throughout the entire financial system. This is because “following a major asset price correction, increases in margin and haircuts [can] cause the wholesale funding for many firms to dry up, forcing them to sell assets to raise liquidity to meet their credit commitments.”<sup>67</sup> Consequently, although fund-based market-based finance is quite different from the more traditional pre-crisis securitization approach, its Achilles heel is almost identical. In times of acute market stress entailing a shock to the value of collateral and an ensuing cascade of collateral calls, the system creates, transmits, and exacerbates systemic risk through interconnecting credit chains. In such circumstances, firms fire-sell assets as part of a “rush to the exits”, and thereby trigger downward liquidity spirals that are self-reinforcing.<sup>68</sup> What is more, these risks are liable to spill-over into the traditional banking system to the extent that traditional banks are involved in, or are exposed to, market-based finance, for example by providing underwriting or credit lines to market-based finance entities.<sup>69</sup> In sum, then, much like its older relative, the new fund-based market-based finance is premised on essentially the same ideas, exhibits many of the same problems, and is liable, therefore, to give rise to equally toxic results.

In light of the above discussion, it is argued that a version of the core flaw evident in the pre-crisis form of market-based finance, and which is liable to persist in its more modern fund-based guise, is also dangerously present in the use of CCPs: namely, that while mutualisation, or risk-spreading, among member firms can contain and dissipate certain types of risk, it cannot deal well with market-wide systemic risk. That is to say, much like market-based finance (old and new), CCPs are unlikely to prove effective bulwarks in the event of unexpected correlations fuelling fire sales, which, through interconnecting credit chains, exacerbate counterparty defaults. Thus, while both market-based finance networks and CCPs can at times make markets more robust, during moments of significant market turbulence they will, in fact, tend to drain liquidity away from the system when the need for such liquidity is most acute. Accordingly, notwithstanding that both market-based financing techniques and CCPs may prove resilient in good times—and may even protect against

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<sup>67</sup> *Ibid.*, p.24. This is also discussed in more detail at pp.41-43. It should also be noted that an increase in risk may also result in intermediaries refusing to provide their services altogether (see, *ibid.*, at p.31).

<sup>68</sup> *Ibid.*, p.43.

<sup>69</sup> *Ibid.*, p.24.

certain types of risk in bad times—they are nevertheless likely to exacerbate problems when things go seriously wrong. In this sense, there is a risk that the *general* effectiveness of CCPs—like the *general* effectiveness of market-based finance networks—will lull us into a false sense of security about what can realistically be achieved when their putative benefits are most acutely needed.

What is more, claims that CCPs fared well during the GFC, and that this offers some measure of reassurance with regard to their more widespread use, miss the point.<sup>70</sup> CCPs performed their functions during the crisis in an environment where the authorities had already provided both explicit support for vital financial institutions and implicit support for the entire financial services network. How FMIs in general, and CCPs in particular, would have fared had such support not been forthcoming remains very much an open question.<sup>71</sup>

Finally, and perhaps most worryingly of all, in addition to concerns about the inability of CCPs to deliver in times of correlated crisis, there is a very “live” danger that they will also compound problems associated with so-called “too-big-to-fail” financial institutions, and thereby accentuate ongoing concerns about moral hazard. Contrary to statements by the authorities post-crisis to promote policies which seek to end “too-big-to-fail”—and thus reduce moral hazard<sup>72</sup>—the policy-choice of co-opting CCPs to act as “proxy” or “surrogate regulators” is liable to do the opposite. In view of the fact that, in advance of seeking to disperse risk, CCPs pull “previously decentralized, discrete, and systemically containable risks into a single platform”,<sup>73</sup> CCPs can themselves become “too-big-to-fail” institutions—thereby moving the problem of potential bailout from one systemically critical arena (a vital financial institution) to another (a pivotal CCP), and, in the process, augmenting problems associated with moral hazard. Admittedly, past CCP/clearinghouse failures are relatively few

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<sup>70</sup> See, Chamorro-Courtland, *supra* n 1, at fn 1; and Allen, *supra* n 3.

<sup>71</sup> See, Powell, *supra* n 9: “It is often noted that CCPs made it through the recent financial crisis without direct government assistance. But many of their major clearing members did receive such assistance. CCPs must now plan for a world in which these large firms will fail and be resolved without government support.” (at p.2).

<sup>72</sup> At an international level, at the Pittsburgh Summit in 2009, G-20 Leaders called on the FSB to propose measures to address the systemic and moral hazard risks associated with systemically important financial institutions (SIFIs). In this respect see, FSB, *Progress and Next Steps Towards Ending “Too-Big-To-Fail” (TBTF): Report of the Financial Stability Board to the G-20* (2 September 2013) ([http://www.fsb.org/wp-content/uploads/r\\_130902.pdf?page\\_moved=1](http://www.fsb.org/wp-content/uploads/r_130902.pdf?page_moved=1)). For a UK perspective, see, for example, Sir Jon Cunliffe, “Ending Too Big to Fail – progress to date and remaining issues” (referring to the “agenda to end too big to fail”) (Speech given by Deputy Governor Financial Stability, Member of the Monetary Policy Committee, Member of the Financial Policy Committee and Member of the Prudential Regulatory Authority Board at The Barclays European Bank Capital Summit, London 13 May 2014) (<http://www.bankofengland.co.uk/publications/Documents/speeches/2014/speech727.pdf>).

<sup>73</sup> Roe, *supra* n 26, at p.1646.

and far between, but they are nevertheless far from unknown, they have been potentially serious, and, at the very least, they serve as a “cautionary tale”.<sup>74</sup>

Furthermore, as the next section seeks to highlight, notwithstanding the obvious sophistication of the UK’s regulatory and supervisory arrangements as they apply to CCPs, a number of fundamental problems nevertheless remain which are likely to render these “state-of-the-art” measures of limited assistance in helping CCPs mutualize losses in the ways envisaged by policy makers and regulators. As a result, any potential reforms geared towards mandating the use of CCPs to clear an increasing range of financial trades, including repos, which is reliant on these reforms remains highly problematic. In particular, although new recovery and resolution regimes have been embedded within the UK’s regime so as to allay fears about taxpayers having to shore up ailing CCPs, and to ensure that, in a worse-case scenario, CCPs are “decommissioned” in such a way as to cause the least harm to the financial system, these novel facets of the UK’s regulatory and supervisory regime are, in fact, likely to be beset by the same types of problems which, it is suggested, undermine the effectiveness of CCPs more generally.

#### ***4. How CCPs are regulated and supervised and why such measures are likely to be of limited assistance in times of crisis?***

In view of the fact that CCPs are private commercial entities with private commercial interests, there is a need to ensure that, as a result of co-opting them to perform quasi-regulatory (ie public) functions, they operate in ways that are consistent with promoting the public good. Accordingly, in the UK, CCPs are subject to a regulatory and supervisory regime, the key features of which are set out and discussed below. This discussion is filtered through the relevant EU measures and international soft law initiatives which have influenced the UK system.

In the UK, responsibility for the regulation and supervision of CCPs/clearinghouses rests with the Bank of England (the “Bank”), alongside its wider responsibilities for ensuring the safety of the financial system. The regulatory regime is set out in Part 18 of the Financial Services and Markets Act 2000 (“FSMA”) (as amended), which applies to so-called *recognised* clearing houses (“RCHs”). In order to become a recognised clearing house,

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<sup>74</sup> See, Hills *et al*, *supra* n 25, at p.133.

applicants must apply for, and secure, a “recognition order” made by an “appropriate regulator”, which today is the Bank.<sup>75</sup> Once recognition is secured, an RCH is exempt from the “general prohibition” in s 19 of the FSMA 2000, but only “as respects” any regulated activity which is carried on for the purposes of, or in connection with, its role as a RCH.<sup>76</sup> Accordingly, if an RCH acts outside the services and activities associated with its role, it is no longer covered by its exempt person status and is rendered subject to the strictures of the general prohibition.<sup>77</sup>

The regulatory regime has been rendered more complicated of late by the introduction of EMIR, which, *inter alia*, makes the clearing of standardized derivatives trades via CCPs mandatory within the EU (and thus gives legal effect to the G20 Leaders’ 2009 Pittsburgh Summit agreement). While both EMIR and its supporting technical standards are directly applicable in the UK (and thus take effect automatically without the need for domestic transposition), some amendments have nevertheless been made to Part 18 FSMA 2000 to facilitate its operation in this jurisdiction. Most significantly, a new category of RCH, known as a ‘recognised central counterparty’ has been created, encompassing those recognised CCPs that are authorised under EMIR and made subject to its provisions.<sup>78</sup> The consequence of these developments is that in the UK different recognition requirements apply to those entities which seek to provide clearing services as a CCP and those which do not.<sup>79</sup> Accordingly, in order to secure and maintain authorisation under EMIR, a clearing house that is a CCP must not only comply with EMIR and its technical standards, but also with additional UK domestic requirements (such as rules in relation to the prevention of market abuse or financial crime).<sup>80</sup>

Requests for authorisation under EMIR must be submitted to the relevant national competent authority (“NCA”)—which, in the UK, is the Bank. The Bank conducts a review of each UK CCP’s application against EMIR’s organisational, conduct of business, and prudential requirements, and against relevant domestic stipulations.<sup>81</sup> Once the application is

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<sup>75</sup> FSMA 2000, ss 285(1)(b), 285A(2) and 288.

<sup>76</sup> FSMA 2000, s 285(3) and (3A).

<sup>77</sup> These include criminal, civil, and administrative sanctions.

<sup>78</sup> FSMA 2000, s 285(1)(b)(i) and s 285(3A).

<sup>79</sup> See FSMA 2000, s 288(1) concerning entities that intend to provide clearing services as a CCP, and s 288(1A) concerning those entities that intend to provide clearing services without doing so as a central counterparty.

<sup>80</sup> See the recognition requirements set out in Part 5 and 6 of the Schedules to the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001/995 (as amended by Financial Services and Markets Act 2000 (Over the Counter Derivatives, Central Counterparties and Trade Repositories) Regulations 2013/504).

<sup>81</sup>

complete, the Bank makes a recommendation to the relevant supervisory college<sup>82</sup> with regard to applicant's authorisation.<sup>83</sup> The supervisory college then has 30 days to offer an opinion on the Bank's recommendation.<sup>84</sup> A successful applicant is granted a "recognition order" under FSMA, which also constitutes authorisation under EMIR. The recognition order "specifies the services and activities the CCP can provide or perform", as well as the categories of financial instruments covered by the authorisation.<sup>85</sup> To date, three UK "recognised central counterparties" have been authorised under EMIR.<sup>86</sup>

The Bank's general supervisory approach to CCPs (and indeed in relation to those RCHs that are not "recognised central counterparties") is shaped by international soft law norms, which have in turn also played a part in helping to influence EU measures. Pre-eminent amongst these norms are the 24 *Principles for Financial Market Infrastructures* published by the Bank for International Settlements' ("BIS") Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions ("CPMI-IOSCO") in April 2012.<sup>87</sup> These principles form the self-declared "foundation stone" upon which the Bank's supervisory approach to CCPs—and FMIs generally—is based, and provide the minimum standards against which the Bank assesses the UK's entire regulatory and supervisory framework.<sup>88</sup>

Furthermore, given the increasing risk that CCPs and other FMIs will themselves become too-big-to-fail entities—and given that they straddle different jurisdictions and clear products that are globally traded—work has also been undertaken at the international level to ensure consistency in relation to FMI recovery and resolution regimes.<sup>89</sup> Although recovery and resolution tools are not necessarily mutually exclusive, "recovery" in this context refers to measures that an FMI might itself undertake to address events which threaten its viability as a going concern (such as levying additional contributions from members firms or temporarily or permanently closing a particular clearing service). "Resolution", meanwhile,

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<sup>82</sup> A supervisory college is formed for each CCP and includes other relevant EU authorities under the chairmanship of the relevant NCA.

<sup>83</sup> EMIR, Arts 17(a) and 19(1).

<sup>84</sup> EMIR, Art 19(1).

<sup>85</sup> [http://www.bankofengland.co.uk/financialstability/Pages/fmis/applications/rch\\_app.aspx](http://www.bankofengland.co.uk/financialstability/Pages/fmis/applications/rch_app.aspx)

<sup>86</sup> [www.esma.europa.eu/sites/default/files/library/ccps\\_authorised\\_under\\_emir.pdf](http://www.esma.europa.eu/sites/default/files/library/ccps_authorised_under_emir.pdf) (last updated 12 May 2016).

<sup>87</sup> [www.bis.org/publ/cpss101a.pdf](http://www.bis.org/publ/cpss101a.pdf).

<sup>88</sup> *The Bank of England's approach to the supervision of financial market infrastructures* (April 2013) ([www.bankofengland.co.uk/financialstability/Documents/fmi/fmisupervision.pdf](http://www.bankofengland.co.uk/financialstability/Documents/fmi/fmisupervision.pdf))

<sup>89</sup> CPMI-IOSCO, *Recovery of financial market infrastructures* ([www.bis.org/cpmi/publ/d121.pdf](http://www.bis.org/cpmi/publ/d121.pdf)); FSB, *Key attributes of effective resolution regimes for financial institutions* (15 October 2014) (Appendix II, Annex I on FMI resolution) ([www.financialstabilityboard.org/wp-content/uploads/r\\_141015.pdf](http://www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf)).



refers to the process under which national authorities are afforded intervention rights to resolve a distressed FMI in a way that minimizes harm to the financial system (eg a wind down of the CCP and/or the transfer of viable parts of the business to another party). Not surprisingly, UK measures directed at CCP recovery and resolution are already well advanced. As a result of changes to the recognition requirements noted above, all UK “recognised central counterparties” have, since early 2014, been under an obligation to implement and keep under review their recovery plans.<sup>90</sup> In addition, following the implementation of secondary legislation in July 2014, as of August 2014 provisions in the Financial Services Act 2012 now extend the UK’s Special Resolution Regime to cover UK “recognised central counterparties”.<sup>91</sup> Accordingly, the Bank may use a number of tools to mitigate any adverse impact on the financial system resulting from the demise of a CCP.

In assessing the above measures, it is clear that having been influenced by international soft law norms and framed, in part, by binding EU rules, the UK can today proudly boast a highly sophisticated and nuanced regime governing the operation of RCHs. Specifically, this regime provides UK “recognised central counterparties” with a framework within which they may carry out their risk mitigation functions, and provides the authorities with some assurance that these CCPs will not have *carte blanche* to act in ways that are inimical to the public good. However, in so far as CCPs retain a discretion to undertake private decisions notwithstanding the constraints to which they are subject, there is a genuine risk that they will pursue their own interests at the expense of the public good. This is likely to happen where the commercial success of a CCP—or, potentially, its survival—becomes reliant on the financial viability of a core number of member firms, the interests of which may not necessarily be aligned with the public good. What is more, this disjuncture is likely to have the greatest impact when the need to protect the public interest is most acute. As Pirrong points out, “CCPs are effectively the agents of some participants of one part of the financial system, and have incentives to take actions that benefit these participants.”<sup>92</sup> Therefore, in so far as CCPs retain a discretion to act, notwithstanding the existence of sophisticated regulatory and supervisory framework, they are in fact incentivised to take

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<sup>90</sup> Regulation 3 of the Financial Services and Markets Act 2000 (Over the Counter Derivatives, Central Counterparties and Trade Repositories) (No. 2) Regulations 2013 amending the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001 ([www.legislation.gov.uk/uksi/2013/1908/made](http://www.legislation.gov.uk/uksi/2013/1908/made))

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<sup>92</sup> Craig Pirrong, “A Bill of Goods: CCPs and Systemic Risk” ([http://web.law.columbia.edu/sites/default/files/microsites/law-economics-studies/Pirrong\\_Paper.pdf](http://web.law.columbia.edu/sites/default/files/microsites/law-economics-studies/Pirrong_Paper.pdf)) at p.4.

decisions which have the effect of “shift[ing] losses and risks away from their members to the broader financial system.”<sup>93</sup> The upshot of such decision-making could lead to the shifting of losses to parts of the system that are too vulnerable to sustain them, thereby undermining the claim that CCPs can help to contain contagious repo runs. The argument here is not that CCP decision-making is undertaken with the aim of inflicting such harm, but that by looking to protect their own interests first—and consequently those of their members—inflicting harm on the wider network is liable to prove to be an incidental, yet unavoidable, feature of clearing trades through CCPs.

Likewise, in relation to the use of recovery and resolution tools to assuage concerns about the creation of too-big-to-fail CCPs, while the introduction of such measures undoubtedly represent an improvement on more rudimentary legal solutions, it nevertheless remains highly debatable whether these domestic or regional (ie EU) tools will, in fact, prove effective in relation to complex cross-border arrangements which involve FMIs that operate on a global stage. In particular, such measures are wholly untested in the context of the types of multiple correlated failures that characterise today’s modern, global, highly interconnected, complex and often opaque markets.<sup>94</sup>

## 5. *Conclusion*

CCPs/Clearinghouses have been an important, if unglamorous, facet of financial markets for many years. Recent global developments mandating the clearing of standardized derivatives contracts via CCPs have, however, catapulted these FMIs to the forefront of regulatory reform. One area where increasing interest in the migration of trading to CCPs has begun to gain traction is in relation to Securities Financing Transactions (SFTs) in general, and repo agreements in particular. Admittedly, few policy-makers and regulators are naïve enough to think that CCPs represent a panacea to the problem of resolving counterparty and collateral risk—and, thereby, forestalling the potential for repo runs. Nevertheless, many now view

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<sup>93</sup> *Ibid.*, at p.41.

<sup>94</sup> Tellingly, in the EU *banking* context, it has been reported that Italy has sought to sidestep similar measures designed to avoid the need for costly taxpayer bailouts: Alex Barker and Rachel Sanderson, “Renzi seeks help for Italy’s banks after Brexit wobble” *Financial Times*, June 27, 2016 (<https://www.ft.com/content/b5a0579a-3c48-11e6-8716-a4a71e8140b0>).

them as representing a significant step forward in making financial markets better at calibrating and managing risk, and thus rendering repo (and other) markets more resilient.

This article has sought to assess the extent to which CCPs are capable of addressing counterparty and collateral risk—and, in turn, helping to forestall the potential for repo runs. It is argued that for all their benefits, CCPs exhibit a major design flaw in as much as they are unable to diversify away market-wide systemic risk when counterparty failures become correlated. What is more, it is argued that this flaw is remarkably similar to the flaw besetting market-based finance more generally, both as revealed during the financial crisis and as is liable to endure in its more modern, fund-based, guise. Thus, while both market-based finance networks and CCPs can often make markets more robust, during moments of significant market turbulence they tend to drain liquidity away from the system when it is in fact most needed. Accordingly, at the very time the protections that CCPs are said to offer are most acutely needed, CCPs are in fact liable to expose their Achilles heel and to act as conductors of risk.

Consistent with their increasing importance as central players in the newly emergent international financial architecture, FMIs in general and CCPs/clearinghouses in particular, have also been the focus of renewed efforts to ensure that they are rendered subject to appropriate regulatory and supervisory arrangements. Influenced by international soft law norms, and framed in part by binding EU rules, the UK can today proudly boast a highly sophisticated and nuanced regulatory and supervisory regime governing RCHs. Yet while the UK's regime applicable to CCPs has much to commend it, for the reasons provided above as to the inability of CCPs to mutualize losses associated with certain types of risk, much of this regulation is likely to be of limited value when things go seriously wrong. Moreover, to the extent that CCPs retain commercial discretion notwithstanding the constraints of the regulatory and supervisory regime to which they are subject, there is a very real risk that CCPs will pursue their own interests, and thus those of their members, in ways that do not necessarily help to promote public good—and, moreover, that they will do this when the public interest in maintaining the stability of the financial system is most vital.

Finally, any move towards a more prominent role for CCPs in clearing repo agreements in particular, and SFTs more generally, is liable to shift the “too-big-to-fail” problem from one set of systemically important institutions (eg banks and broker dealers) to another (CCPs). Accordingly, contrary to efforts by the authorities in the aftermath of the

GFC to adopt policies which seek to end “too-big-to-fail”, and thus reduce moral hazard, increasing emphasis on the use of CCPs is in fact liable to do the opposite. While the use of recovery and resolution planning is undoubtedly prudent in such circumstances, it is argued that the experimental and uncertain nature of these measures makes them an unreliable, and certainly untested, backstop.

Within a remarkably short space of time, CCPs have emerged from the shadows to occupy a central role in helping to neutralize incipient systemic risks in the post-GFC financial system. This article has offered a sceptical assessment of the burgeoning faith of policy-makers and regulators in the ability of CCPs to act as a means of containing contagion in repo markets. Given the weaknesses and dangers outlined and addressed above, the greater emphasis on CCPs to undertake extensive risk-management functions reveals the remarkably limited range of reform options which are currently available. Yet, while the need for viable solutions is undoubtedly acute, policy-makers and regulators must nevertheless face up to the fact that there is much about the workings of modern, global, complex, interconnected financial markets—especially when being tested under conditions of severe stress—that we simply do not yet know. It may be stretching it too far to suggest that misplaced faith in the ability of CCPs to deliver the type of resilience that such markets require amounts to yet more folly. But much like our misplaced faith in a newer brand of market-based finance, it is liable to represent yet another “false dawn”.